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NASA Photo 97E5001

STS-94 Mission Specialist Donald Thomas uses a microscope at the glovebox in the Spacelab module during flight day five activities. Science activities onboard *Columbia* moved smoothly through the 16-day mission. Crew members conducted nearly three dozen experiments in combustion, materials science, and protein crystal growth sponsored by the space agencies of four nations.

Science surpasses expectations

Combustion, materials and protein crystal growth scientists got as much or more than they had hoped for during the two-week STS-94 mission, surpassing expectations that had to be postponed when STS-83 ended early.

After the fastest shuttle and crew turnaround in history, the astronauts aboard *Columbia* sailed through nearly three dozen experiments sponsored by the space agencies of four nations with ease that belied their complexity and importance to life on Earth.

"Science teams are getting everything they hoped for, and in some cases, more than they hoped," said Mission Manager Teresa Vanhooser of Marshall Space Flight Center. "We're seeing a lot of smiling faces in the science operations areas."

Commander Jim Halsell, Pilot Susan Still, Mission Specialists Janice Voss, Mike Gernhardt and Don Thomas, and Payload Specialists Roger Crouch and Greg Linteris were scheduled to land at Kennedy Space Center on Thursday, weather permitting.

Throughout the mission, the oldest shuttle in the fleet provided a virtually trouble-free stage for the microgravity investigations that will be instrumental in building a bridge to the International Space Station research of the 21st Century. A key component used for the first time on STS-94 was the innovative EXPRESS Rack, which stands for EXpedite the Processing of Experiments to the Space Station. The EXPRESS Rack replaced a Spacelab double rack and housed two experiments and tested the design, development and adaptation of the modular hardware.

Some of the "flashiest" experiments of the mission were designed to help improve combustion efficiency on Earth. Scientists predict that a mere 1 percent improvement in combustion efficiency could save $1 billion dollars in American energy expenditures each year and significantly reduce the amount of pollutants spilled into the atmosphere. Thomas said that by July 13 the crew already had completed more test runs than had been planned.

"We had planned to do about 150 burns, total combustion experiments up in space," Thomas said.

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Open house needs volunteers for center wide jobs, activities

JSC will open its doors for a "behind the scenes" look by the general public from 9 a.m.-4 p.m. Saturday, Aug. 23, and committee members are seeking volunteers to help visitors explore the space program.

Event organizers are asking employees to volunteer their time to fill the many needs visitors will have during the event. Volunteers will help at water stations, with clean up, provide directions at JSC gates and a variety of other activities that will help visitors enjoy their space experience.

More than 18 buildings at JSC, Ellington Field and the Sonny Carter Training Facility will be open to the public. The event features more than 100 different exhibits and displays.

In the past, JSC's one-day event has attracted as many as 70,000 guests from all over the state of Texas and across the country.

Guests attending the JSC Open House will see research and facilities and take part in a variety of demonstrations. Visitors can learn about life on Mars, the different space suits astronauts wear and tour the shuttle and space station mockups in Bldg. 9, the Neutral Buoyancy Lab and MIssion Control.

For more information on what type of volunteers are needed, employees may call Kacy Carraway at x35045. Employees interested in volunteering, also may call Carraway.

For more general information on the open house call John Lawrence at x35111.

New benefits statements, handbook out soon

By Karen Schmidt

JSC's Human Resources Office is in the process of sending all civil servants new personalized benefit statements and a handbook that will give more information about the wide range of benefits available.

The new statements and handbook are the result of a product improvement initiative intended to drive down costs, improve accuracy and speed employees' access to their current benefits status.

In the past, employees could request a two-page annual benefits summary that focused primarily on retirement benefits. The new benefits statement expands that focus to include detailed information on the full range of employee benefits that are important throughout a career from the first day of employment to retirement and beyond.

"When we developed the old benefit statement, our experience and technology were somewhat limited and most of our employees were covered under the Civil Service Retirement System," said Mike Stewart, of Human Resources' Employee Services Office. "Now most of our employees are covered under the Federal Employee Retirement System and the benefits are much more complex and employees are more interested in the details."

The new benefit statement is eight pages long and divided into several categories and career scenarios. It contains personal information on service dates, pay, life and health insurance coverage, leave, retirement, social security, both short and long-term disability, separation information, death benefits and Thrift Savings Plan details.

Stewart said the current plan is for all employees to receive their statements annually after government-wide pay increases. Since the report only takes moments to print, employees may make individual requests at any time throughout the year.

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Cosmic rock hound begins robotic prospecting on Mars

The Mars Pathfinder rover is making important discoveries as it begins its sojourn across the Red Planet's surface, examining a diverse collection of rocks with nicknames like "Barnacle Bill" and "Yogi" in what appears to be an ancient flood plain.

The rover, itself named Sojourner Truth, was performing to the highest expectations of its designers, who are still learning how to drive the first mobile probe to land on the fourth planet from the Sun. Sojourner's Alpha proton x-ray spectrometer was being used to determine the chemical content of the rocks by bouncing sub-atomic particles off their surfaces.

"The site is everything we hoped it would be," said Matthew Golombek, Pathfinder project scientist. "We are finding more and more surprises as we look in detail at the rocks and terrain."

Because all of the rocks around the landing site appear to be leaning in the same direction, scientists believe the area once was the site of massive floods. And the bright reddish color of the soil points to the

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Sojourner's first analysis of a rock on Mars begins with the study of Barnacle Bill, a nearby rock named for its rough surface. The Alpha Proton X-Ray Spectrometer was used to determine the elements that make up the rocks and soil on Mars.